

REMARKS

This Response and Amendment is filed in response to the Office Action dated May 14, 2004.

Upon entry of this Amendment, claims 1-51 are pending in this application. By this Amendment, claims 9-13 are amended to correct typographical errors. Claims 1-8 and 14-27 unchanged. Claims 28-51 are added to recite additional patentable subject matter. No new matter has been added.

In the Office Action Summary (Form PTOL-326), no indication is made regarding whether the drawings filed with the present application are acceptable to the Examiner. The Applicant therefore respectfully requests such an indication from the Examiner.

On page 2 of the Office Action, the Examiner objected to the title of the invention as not being descriptive and required the Applicant to re-name the title. By this Amendment, the title of the invention is amended as shown in the **Amendments to the Specification** above.

Also on page 2 of the Office Action, Claims 1-13, 17-22, 26, and 27 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,540,558 issued to Harden et al. (hereinafter "Harden"). Also, on page 4 of the Office Action, Claims 14-16 and 23-25 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,543,560 issued to Trefz et al. (hereinafter "Trefz") in view of Harden.

Independent Claim 1 recites (underlining added for emphasis):

An actuator device self-contained within a housing and adapted to move an object, the actuator device comprising:

a movable piston positioned in a cylinder portion of the housing, the cylinder portion defining a longitudinal axis, the piston being movable along the longitudinal axis in response to an accumulation of air pressure within the cylinder portion;

a rod coupled to the piston for movement with the piston, the rod at least partially extending outside of the housing to couple to the object; and

an air compressor located within the housing, the air compressor transferring air from a location in the housing outside the cylinder portion to a location inside the cylinder portion.

On page 2 of the Office Action, the Examiner states that Harden discloses, "...a housing..., ...a movable piston positioned within a cylinder portion of the housing, ...the piston being movable...in response to an accumulation of air pressure within the cylinder portion, ...and an air compressor located within the housing, the air compressor transferring air from a location in the housing outside of the cylinder portion to a location inside the cylinder portion,...." Rather, Harden discloses a compressor inlet valve 10 for regulating the inlet air flow to a compressor. The inlet valve 10 includes a housing 14 having a housing inlet 16 and a housing discharge port 20. The valve 10 also includes a poppet 71 for sealing against a seat 36. The poppet 71 is connected to a linear actuator 80, and is movable relative to the seat 36 to regulate the inlet air flow to the compressor. An electric motor 81 is coupled to the linear actuator 81 to move the linear actuator 81.

First, Harden does not teach or suggest an actuator device self-contained within a housing and a movable piston positioned in a cylinder portion of the housing, whereby the piston is movable in response to an accumulation of air pressure within the cylinder portion, as claimed in claim 1. The Applicant respectfully submits that the housing 14 disclosed by Harden does *not* include a cylinder portion, and that the poppet 71 is *not* responsive to an accumulation of air pressure, as suggested by the Examiner. Rather, the poppet 71 is located in an open chamber 34 of the housing 14, and the poppet 71 is moved by the linear actuator 80 relative to the seat 36 to regulate inlet air flow into the compressor.

Second, Harden does not teach, describe, or suggest an air compressor located within the housing, whereby the air compressor transfers air from a location in the housing outside the cylinder portion to a location inside the cylinder portion, as claimed in claim 1. The Applicant respectfully submits that the compressor disclosed by Harden can not be located *within* the housing 14, as suggested by the Examiner, if Harden intends the housing 14 to connect to an inlet 21 of the compressor to regulate the inlet air flow to the compressor. In addition, the Applicant respectfully submits that the compressor does *not* transfer air between two locations in

the housing 14. Rather, inlet air merely flows through the inlet valve 10 before entering the compressor.

Harden fails to teach or suggest that the poppet 71 may be positioned in a cylinder portion of the housing 14, and that the poppet 71 may be responsive to an accumulation of air pressure. In addition, harden fails to teach or suggest that the compressor may be positioned within the housing 14, and that the compressor may transfer air between two locations in the housing 14.

Accordingly, the Applicant respectfully requests withdrawal of the 35 U.S.C. §102(b) rejection of claim 1.

Claims 2-7 are each ultimately dependent upon claim 1, and are believed to be allowable based upon claim 1 and upon other features and elements claimed in claims 2-7 but not discussed herein.

Independent claim 8 recites (underlining added for emphasis):

An actuating system comprising:

an actuator device self-contained within a housing, the actuator device including

a movable piston positioned in a cylinder portion of the housing, the cylinder portion defining a longitudinal axis, the piston being movable along the longitudinal axis in response to an accumulation of air pressure within the cylinder portion,

a rod coupled to the piston for movement with the piston, the rod at least partially extending outside of the housing to couple to the object, and

an air compressor located within the housing, the air compressor transferring air from a location in the housing outside the cylinder portion to a location inside the cylinder portion; and

an object coupled to a portion of the rod outside of the housing, the object being moved in response to movement of the piston.

The arguments presented above relating to claim 1 apply equally to the rejection of claim 8. Harden does not teach or suggest an actuator device self-contained within a housing and a movable piston positioned in a cylinder portion of the housing, whereby the piston is movable in response to an accumulation of air pressure within the cylinder portion, as claimed in claim 8. In addition, Harden does not teach or suggest an air compressor located within the housing, whereby the air compressor transfers air from a location in the housing outside the cylinder portion to a location inside the cylinder portion, as claimed in claim 8. The Applicant refers to the arguments above in connection with claim 1 for a more complete discussion of the inapplicability of Harden.

Harden also does not teach or suggest an object coupled to a portion of a rod outside of the housing, whereby the object is moved in response to movement of the piston, as claimed in claim 8. Rather, Harden discloses that the linear actuator 80 is operable to move the poppet 71 relative to the seat 36 to regulate the inlet air flow to the compressor, which is opposite to the claimed piston, which moves in response to an accumulation of air pressure within the cylinder portion. Harden fails to teach or suggest an object coupled to the linear actuator 80 outside of the housing 14 that moves in response to the linear actuator 80.

Accordingly, the Applicant respectfully requests withdrawal of the 35 U.S.C. §102(b) rejection of claim 8.

Claims 9-18 are each ultimately dependent upon claim 8, and are believed to be allowable based upon claim 8 and upon other features and elements claimed in claims 9-18.

For example, claim 14 further recites that the object includes a lever for a clutch/brake assembly, wherein actuation of the lever causes engagement and disengagement of the clutch/brake assembly, and wherein the rod is coupled to the lever to engage and disengage the clutch/brake assembly in response to movement of the rod. Neither Harden, Trefz, nor their combination teach or suggest a lever of a clutch/brake assembly being moved in response to movement of a piston. For these and other reasons, claim 14 contains additional patentable

subject matter. Accordingly, the Applicant respectfully requests withdrawal of the 35 U.S.C. §103(a) rejection of claim 14.

Claim 15 further recites a spring coupled between the rod and the lever of the clutch/brake assembly. Neither Harden, Trefz, nor their combination teach or suggest a spring coupled between a rod and a lever of a clutch/brake assembly. For these and other reasons, claim 15 contains additional patentable subject matter. Accordingly, the Applicant respectfully requests withdrawal of the 35 U.S.C. §103(a) rejection of claim 15.

Independent claim 19 recites (underlining added for emphasis):

An actuating system comprising:

an actuator device including

a housing,

a piston coupled to the housing by a flexible membrane, the flexible membrane dividing the housing into a first chamber and a second chamber fluidly separated from the first chamber, the piston being responsive to an accumulation of air pressure within the housing,

a rod coupled to the piston for movement with the piston, the rod at least partially extending outside of the housing,

an air compressor fluidly connected with the first chamber of the housing, the air compressor being operable to generate the air pressure within the first chamber of the housing, and

a valve selectively fluidly connecting the first chamber and a location outside of the housing to vent the air pressure from the first chamber; and

an object coupled to a portion of the rod outside of the housing, the object being moved in response to movement of the piston.

First, Harden does not teach or suggest an actuator device including a piston coupled to a housing by a flexible membrane, whereby the membrane divides the housing into a first chamber and a second chamber, as claimed in claim 19. The Applicant respectfully submits that the

poppet 71 disclosed by Harden is *not* coupled to the housing 14 by a flexible membrane, and that the housing 14 disclosed by Harden is *not* divided into a first chamber and a second chamber. Rather, the poppet 71 is only coupled to the housing 14 via the linear actuator 80, and the poppet 71 is located in an open chamber 34 of the housing 14.

Second, Harden does not teach or suggest that the piston is responsive to an accumulation of air pressure within the housing, as claimed in claim 19. The Applicant respectfully submits that the poppet 71 is not responsive to an accumulation of air pressure within the housing 14. Rather, the poppet 71 is moved by the linear actuator 80 relative to the seat 36 to regulate inlet air flow into the compressor.

Third, Harden does not teach or suggest a valve selectively fluidly connecting the first chamber and a location outside of the housing to vent the air pressure from the first chamber, as claimed in claim 19. The Applicant respectfully submits that the valve 102 disclosed by Harden does *not* vent air pressure from the housing 14, but rather allows the introduction of anti-rumble gas into the housing 14 through an inlet 23 in the housing 14.

Fourth, Harden does not teach or suggest an object coupled to a portion of a rod outside of the housing, whereby the object is moved in response to movement of the piston, as claimed in claim 19. Rather, Harden discloses that the linear actuator 80 is operable to move the poppet 71 relative to the seat 36 to regulate the inlet air flow to the compressor, which is opposite to the claimed piston, which moves in response to an accumulation of air pressure within the cylinder portion. Harden fails to teach or suggest an object coupled to the linear actuator 80 outside of the housing 14 that moves in response to the linear actuator 80.

Harden fails to teach or suggest that the poppet 71 may be coupled to the housing 14 by a flexible membrane. Harden also fails to teach or suggest that the housing 14 may be divided into a first chamber and a second chamber. In addition, Harden fails to teach or suggest that the poppet 71 may be responsive to an accumulation of air pressure within the housing 14. Further, Harden fails to teach or suggest a valve for fluidly connecting the housing 14 and a location outside of the housing 14 to vent the air pressure from the housing 14. Harden also fails to teach

or suggest an object coupled to the poppet 71 or the linear actuator 80 outside of the housing 14 that is moved in response to movement of the poppet 71.

Accordingly, the Applicant respectfully requests withdrawal of the 35 U.S.C. §102(b) rejection of claim 19.

Claims 20-27 are each ultimately dependent upon claim 19, and are believed to be allowable based upon claim 19 and upon other features and elements claimed in claims 20-27.

For example, claim 23 further recites that the object includes a lever for a clutch/brake assembly, wherein actuation of the lever causes engagement and disengagement of the clutch/brake assembly, and wherein the rod is coupled to the lever to engage and disengage the clutch/brake assembly in response to movement of the rod. Neither Harden, Trefz, nor their combination teach or suggest a lever of a clutch/brake assembly being moved in response to movement of a piston. For these and other reasons, claim 23 contains additional patentable subject matter. Accordingly, the Applicant respectfully requests withdrawal of the 35 U.S.C. §103(a) rejection of claim 23.

Claim 24 further recites a spring coupled between the rod and the lever of the clutch/brake assembly. Neither Harden, Trefz, nor their combination teach or suggest a spring coupled between a rod and a lever of a clutch/brake assembly. For these and other reasons, claim 24 contains additional patentable subject matter. Accordingly, the Applicant respectfully requests withdrawal of the 35 U.S.C. §103(a) rejection of claim 24.

CONCLUSION

In view of the remarks presented herein, it is respectfully submitted that the claims are in condition for allowance. The Applicant kindly requests that the Examiner telephone the attorneys of record in the event a telephone discussion would be helpful in advancing the prosecution of the present application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Timothy M. Kelley", with a large, stylized loop at the end.

Timothy M. Kelley
Reg. No. 34,201

Michael Best & Friedrich LLP
100 East Wisconsin Avenue
Milwaukee, Wisconsin 53202-4108
(414) 271-6560

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